

December 4, 2001

Scott Kryder
Kryder Veterinary Hospital
12555 State Road 23
Granger, IN 46530

Re: Exempt Operation Status,
141-14920-00002

Dear Mr. Kryder:

The application from Kryder Veterinary Hospital, received on October 9, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following, to be located at 12555 State Road 23 in Granger, Indiana, 46530, is classified as exempt:

One (1) 1.5 MMBtu/hr natural gas fired Crawford CB400 animal incinerator, identified as CB400, with a maximum design production rate of 100 lb/hr, a primary chamber maximum capacity of 0.5 MMBtu/hr, and a secondary chamber maximum capacity of 1.0 MMBtu/hr.

The following conditions shall be applicable:

(a) 326 IAC 4-2-2 Incinerator Requirements

Pursuant to 326 IAC 4-2-2, the owner or operator shall limit the incinerator particulate matter (PM) emissions to less than five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions, corrected to 50% excess air.

In addition, the incinerator shall be constructed and operated such that the incinerator:

- (1) has a primary and secondary chamber or the equivalent,
- (2) is equipped with a primary burner unless burning wood products,
- (3) complies with 326 IAC 5-1 and 326 IAC 2,
- (4) is maintained properly as specified by the manufacturer and as approved by the Commissioner,
- (5) is operated according to the manufacturer's recommendations and only burn waste approved by the Commissioner,
- (6) complies with other state and/or local rules or ordinances regarding installation and operation of incinerators,
- (7) is operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented; and
- (8) does not create a nuisance or a fire hazard.

If the owner or operator cannot, at any time, operate the incinerator such that all of the requirements of this condition are met, the owner or operator shall terminate burning immediately.

(b) 326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the incinerator shall be operated such that:

- (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity) monitor in a six (6) hour period.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

SDF

cc: File - St. Joseph County
St. Joseph County Health Department
Air Compliance - Paul Karkiewicz and Tony Pelath
Northern Regional Office
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: Kryder Veterinary Hospital
Source Location: 12555 State Road 23, Granger Indiana, 46530
County: St. Joseph
Exemption No.: 141-14920-00002
Permit Reviewer: SDF

The Office of Air Quality (OAQ) has reviewed an application from Kryder Veterinary Hospital relating to the construction and operation of:

One (1) 1.5 MMBtu/hr natural gas fired Crawford CB400 animal incinerator, identified as CB400, with a maximum design production rate of 100 lb/hr, a primary chamber maximum capacity of 0.5 MMBtu/hr, and a secondary chamber maximum capacity of 1.0 MMBtu/hr.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

This proposed exemption will be the first approval for the source.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the exemption be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application.

A complete application for the purposes of this review was received on October 9, 2001.

Emission Calculations

SOURCE UNRESTRICTED POTENTIAL TO EMIT:

The emissions generated by the incinerator are the emissions generated from the material that is incinerated, and the combustion emissions from the primary and secondary chambers.

1. Incinerated Material Emissions:

The following calculations determine the emissions generated from incinerating material in the incinerator based on a maximum design throughput of 100 lb/hr, SO₂, NO_x, and VOC emission factors from AP-42, Table 2.1-12, PM, PM₁₀, and CO emission factors from an independent test, 8760 hours of operation, and emissions before controls.

$$100 \text{ lb waste/hr} * 1/2000 \text{ ton waste/lb waste} * \text{Ef lb poll./ton waste} * 8760 \text{ hr/yr} * 1/2000 \text{ ton poll./lb poll.}$$

The following table summarizes the incinerated waste air pollutant emissions (UPTE).

	PM	PM ₁₀	SO ₂	NO _x	VOC	CO	Single HAP	Combined HAP
EF (lb/ton)	0.39	0.39	5.00	6.00	6.00	0.18	neg.	neg.
Emissions	1.71	1.71	1.10	1.31	1.31	0.79	neg.	neg.

2. Combustion Emissions:

The following calculations determine the source combustion UPTE based on natural gas combustion, a combined chamber capacity of 1.5 MMBtu/hr, AP-42 emission factors, emissions before controls, and 8760 hours of operation.

$$1.5 \text{ MMBtu/hr} * 8760 \text{ hr/yr} * 1 \text{ E6 Btu/MMBtu} * 1/1000 \text{ cf/Btu} * 1/1\text{E6 MMcf/cf} * \text{Ef lb poll/MMcf} * 1/2000 \text{ ton poll/lb poll} = \text{ton poll/yr}$$

	PM 7.6 lb/MMcf	PM ₁₀ 7.6 lb/MMcf	SO ₂ 0.6 lb/MMcf	NO _x 100 lb/MMcf	VOC 5.5 lb/MMcf	CO 84 lb/MMcf
ton/yr	neg.	neg.	neg.	0.70	neg.	0.60

The combined HAP emissions are determined to be negligible.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design.

Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	1.71
PM-10	1.71
SO ₂	1.10
VOC	1.31
CO	1.39
NO _x	2.01

Combined HAPs	neg.
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Level of Permit

The criteria pollutant UPTE and the single and combined HAP UPTE, each, are less than the applicable exempt levels under 326 IAC 2-1.1-3(d)(1). Therefore, the source is determined to be an exempt source.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM-10	attainment or unclassifiable
SO ₂	attainment or unclassifiable
NO ₂	attainment or unclassifiable
Ozone	maintenance attainment
CO	attainment or unclassifiable
Lead	attainment or unclassifiable

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) St. Joseph County has been classified as attainment or unclassifiable for all other applicable pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Federal Rule Applicability

1. New Source Performance Standards (NSPS):

a. 40 CFR 60, Subpart E:

40 CFR 60, Subpart E, "Standards of Performance for Incinerators" does not apply because the charge rate is less than 50 tons per day.

b. 40 CFR 60, Subpart Ec:

40 CFR 60, Subpart Ec, "Standards of Performance for Hospital/Medical/Infectious Waste Incinerators" does not apply because the materials burned are not hospital/medical/infectious waste.

2. National Emission Standards for Hazardous Air Pollutants:

There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

1. State Rule Applicability - Entire Source

326 IAC 5-1 (Visible Emissions Limitations)

This proposed source is subject to the opacity requirements of 326 IAC 5-1-2(2) because the source is located in St. Joseph County, specifically north of Kern Road and East of Pine Road.

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity) monitor in a six (6) hour period.

2. State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants)

326 IAC 2-4.1 does not apply to the proposed incinerator because the single and combined unrestricted potential to emit are less than the respective applicable levels of 10 and 25 tons per year.

326 IAC 4-2 (Incinerators, Requirements)

The proposed incinerator is subject to 326 IAC 4-2 because the incinerator:

- (a) generates regulated air pollutant emissions,
- (b) is not a residential incinerator servicing four or fewer families, and
- (c) is not an incinerator for which streamlined requirements under 326 IAC 2-7-24 have been established.

Pursuant to 326 IAC 4-2-2, the owner or operator shall limit the incinerator particulate matter (PM) emissions to less than five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions, corrected to 50% excess air.

The PM emissions from the incinerator, as determined by the manufacturer, are 0.21 pound per 1,000 pounds of dry exhaust gas at standard conditions, corrected to 50% excess air which is less than the limit of 0.5 pound per 1,000 pounds of dry exhaust gas at standard conditions, corrected to 50% excess air. Therefore, compliance is determined to be achieved.

In addition, the incinerator shall be constructed and operated such that the incinerator:

- (a) has a primary and secondary chamber or the equivalent,
- (b) is equipped with a primary burner unless burning wood products,
- (c) complies with 326 IAC 5-1 and 326 IAC 2,
- (d) is maintained properly as specified by the manufacturer and as approved by the Commissioner,
- (e) is operated according to the manufacturer's recommendations and only burn waste approved by the Commissioner,
- (f) complies with other state and/or local rules or ordinances regarding installation and operation of incinerators,
- (g) is operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented; and
- (h) does not create a nuisance or a fire hazard.

If the owner or operator cannot, at any time, operate the incinerator such that all of the requirements of this condition are met, the owner or operator shall terminate burning immediately.

326 IAC 6-3-2 (Process Operations)

The proposed incinerator is not subject to 326 IAC 6-3-2 because incinerators are exempted from the requirements under 326 IAC 6-3-1(a)(2).

326 IAC 6-1-2 (Nonattainment Area Particulate Matter (PM) Limitations)

326 IAC 6-1-2 does not apply to the incinerator because the unrestricted PM emissions based on continuous operation at maximum capacity, without controls, (1.71 tons/yr) is less than the applicable potential and actual PM levels of 100 and 10 tons per year, respectively, as specified in 326 IAC 6-1-1.

Conclusion

The operation of this pet incinerator shall be subject to the conditions of the attached proposed exemption 141-14920-00002.